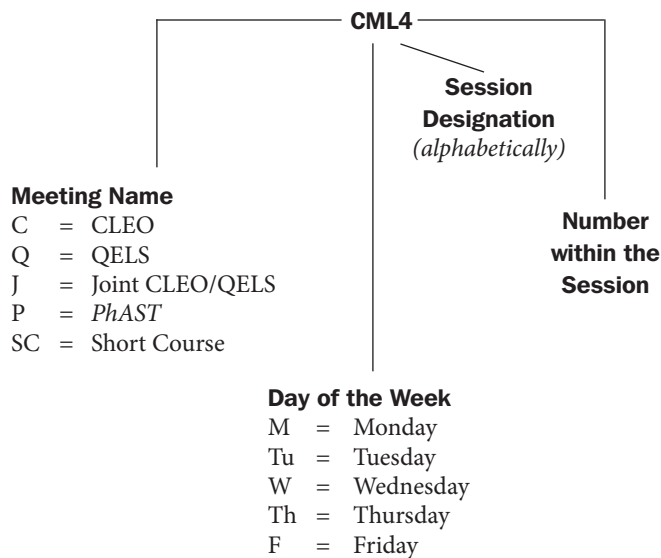


CLEO/QELS and PhAST 2008 Technical Program

CLEO/QELS and *PhAST* have a total of 1,916 papers scheduled for presentation during the five-day conference at the San Jose McEnery Convention Center in San Jose, CA. These include three plenary presentations and 12 tutorials. CLEO has 74 invited papers and 1,266 contributed papers, of which 303 will be presented in three poster sessions. QELS has a total of 34 invited speakers and 441 contributed papers, of which 101 will be presented in three poster sessions. *PhAST* has 56 invited speakers. Additionally, a number of special symposia sessions are scheduled throughout the five-day program.

Concurrent sessions are grouped across four pages. Please review all four pages for complete session information. For example, session QMA begins on page 48. To find the rest of the QMA session, please turn to page 52.

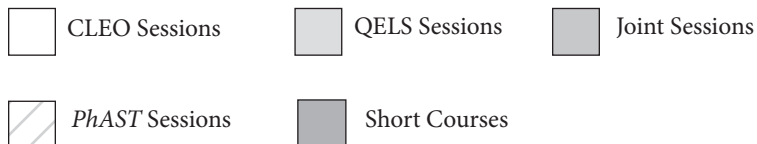
Explanation of Session Codes



The first letter of the code indicates the name of the meeting: CLEO (C), QELS (Q), *PhAST* (P) and Joint session (J). The second character designates the day of the week (Monday = M, Tuesday = Tu, Wednesday = W, Thursday = Th, Friday = F). The next character indicates the session within the particular day the talk is being given; each day begins with a letter A and continues alphabetically. The number on the end of the code signals the position of the talk within the session (first, second, third, etc.).

For example, a session number CML4 would indicate that this is a CLEO paper, being presented on Monday during the 12th session (L), and the fourth paper (4) presented in that session.

Key to Shading



Invited papers are noted with **Invited**

Tutorials are noted with **Tutorial**

Agenda of Sessions — Sunday, May 4

9:00 a.m.– 5:30 p.m.	SC136: Understanding Lasers and Critical Optical Components, Shaoul Ezekiel; SC200: Laser Remote Sensing, Timothy Carrig and Philip Gatt; <i>Fairmont Hotel</i>
1:30 a.m.– 4:30 p.m.	SC164: THz Technology, Alan Cheville; SC189: Quantum Technologies, Ian Walmsley; SC271: Quantum Information—Technologies and Applications, Prem Kumar and Paul Toliver; SC300: Silicon Photonics, Bahram Jalali; SC301: Quantum Cascade Lasers: From Band Structure Engineering to Commercialization, Federico Capasso; SC302: MetaMaterials, Vladimir M. Shalaev; <i>Fairmont Hotel</i>
3:00 p.m.– 6:00 p.m.	Theodore Maiman Tribute Symposium: Invention and Demonstration of the World's First Laser, <i>Room J2</i>



Agenda

All sessions are at the San Jose McEnery Convention Center unless otherwise noted.

Key to Shading

- CLEO Sessions
- QELS Sessions
- Joint Sessions
- PhAST Sessions
- Short Courses

Agenda of Sessions — Monday, May 5

	Ballroom A1 & A8	Ballroom A2 & A7	Ballroom A3 & A6	Ballroom A4 & A5	Room C1 & C2	Room C3 & C4	Room B1 & B2	Room J2
8:00 a.m.–9:45 a.m.	QMA: Metamaterials I	JMA: Joint CLEO/QELS Symposium on Novel Resonators: Superconducting Cavities and Qubits (ends at 9:30 a.m.)	CMA: High-Power Fiber Lasers	CMB: Large Mode Area Fibers	QMB: Foundations of Quantum Mechanics	CMC: Precision Optical Metrology	CMD: THz Near-Field Optics and Plasmonics	QMC: Nonlinear Optics and Resonators
9:00 a.m.–12:00 p.m.	SC147: Optical Fiber Communication Systems, Alan Willner; SC165: Laser Diode-Pumped Solid-State Lasers, Larry Marshall; SC221: Nano-Photonics: Physics and Techniques, Axel Scherer; SC247: Ultrafast Optics: Nanoscale Microscopy, Metrology and Patterning Using Compact and Large Scale Soft X-Ray Sources, David Attwood, Jorge J. Rocca, Margaret Murnane and Henry Kapteyn; SC272: Biological and Chemical Sensing for Homeland Security, Stephen Lane and Thomas Huser; SC319: Quantum Dot Laser Diodes, Peter Blood; Fairmont Hotel							
9:45 a.m.–10:15 a.m.	Coffee Break, Concourse Level							
10:15 a.m.–12:00 p.m.	QMD: Metamaterials II	JMB: Joint CLEO/QELS Symposium on Novel Resonators: Cavity QED	CMJ: Fiber Sensors	CMK: Fiber and Waveguide Devices	QME: Quantum Logic	CML: Timing Stabilization and Distribution	CMM: Terahertz Sources	QMF: Ultrafast and Ultraintense
12:00 p.m.–1:30 p.m.	Lunch Break (on your own)							
1:00 p.m.–5:00 p.m.	SC123: Erbium-Doped Fiber Amplifiers and Raman Fiber Amplifiers, John Zyskind; SC149: Foundations of Nonlinear Optics, Robert Fisher; SC157: Laser Beam Analysis, Propagation and Shaping Techniques, James R. Leger; SC160: Microwave Photonics, Keith Williams; SC167: Fundamentals of Semiconductor Lasers: Edge-Emitters to Micro Cavity Devices, Kent D. Choquette and Weng Chow; SC194: Photonic Crystal Fibers and Devices, Benjamin J. Eggleton; SC316: Organic Photonic Devices, Marc Baldo and Vladimir Bulovic; Fairmont Hotel							
1:30 p.m.–3:15 p.m.	QMG: Metamaterials III	JMC: Joint CLEO/QELS Symposium on Novel Resonators: Integrated Resonators	CMS: Applications of Ultrafast Imaging	CMT: Supercontinuum Generation I	QMH: Higher-Dimensional Entanglement	CMU: Optical Frequency Control and Applications	CMV: THz QCL I	QMI: Slow Light and Multilevel Effects
3:15 p.m.–3:45 p.m.	Coffee Break, Concourse Level							
3:45 p.m.–5:30 p.m.	CMBB: Nonlinear Wave Mixing	JMD: Joint CLEO/QELS Symposium on Novel Resonators: Cavity Opto-Mechanics	CMCC: Short Wavelength Imaging	CMDD: Supercontinuum Generation II	QMJ: Single-Photon Detectors	CMEE: Advanced Optical Length Metrology	CMFF: THz QCL II	QMK: Solitons
5:30 p.m.–6:00 p.m.	Break (Civic Auditorium doors will open at 5:45 p.m. for the Plenary)							
6:00 p.m.–7:30 p.m.	CLEO Plenary Session, Civic Auditorium							

All sessions are at the San Jose McEnery Convention Center unless otherwise noted.

Key to Shading

 CLEO Sessions	 QELS Sessions	 Joint Sessions	 PhAST Sessions	 Short Courses
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Agenda of Sessions — Monday, May 5

Room J3	Marriott Salon 1 & 2	Marriott Salon 3	Marriott Salon 4	Marriott Salon 5 & 6
CME: Semiconductor Communication Devices	CMF: Fundamentals of Femtosecond Laser/Material	CMG: Optical Signal Processing	CMH: Hyperspectral and Diode-Laser Absorption Spectroscopy	CMI: Gallium Nitride Lasers

SC147: Optical Fiber Communication Systems, Alan Willner; SC165: Laser Diode-Pumped Solid-State Lasers, Larry Marshall; SC221: Nano-Photonics: Physics and Techniques, Axel Scherer; SC247: Ultrafast Optics: Nanoscale Microscopy, Metrology and Patterning Using Compact and Large Scale Soft X-Ray Sources, David Attwood, Jorge J. Rocca, Margaret Murnane and Henry Kapteyn; SC272: Biological and Chemical Sensing for Homeland Security, Stephen Lane and Thomas Huser; SC319: Quantum Dot Laser Diodes, Peter Blood; Fairmont Hotel

Coffee Break, Concourse Level

CMN: High-Power Semiconductor Lasers	CMO: Novel Techniques in Beam Shaping and Sensing	CMP: Microwave Photonics	CMQ: Remote Sensing	CMR: Organic LEDs for Solid-State Lighting
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Lunch Break (on your own)

SC123: Erbium-Doped Fiber Amplifiers and Raman Fiber Amplifiers, John Zyskind; SC149: Foundations of Nonlinear Optics, Robert Fisher; SC157: Laser Beam Analysis, Propagation and Shaping Techniques, James R. Leger; SC160: Microwave Photonics, Keith Williams; SC167: Fundamentals of Semiconductor Lasers: Edge-Emitters to Micro Cavity Devices, Kent D. Choquette and Weng Chow; SC194: Photonic Crystal Fibers and Devices, Benjamin J. Eggleton; SC316: Organic Photonic Devices, Marc Baldo and Vladimir Bulovic; Fairmont Hotel

CMW: VCSEL I	CMX: Nano- and Micro-Processing of Materials with Femtosecond Laser Pulses	CMY: Optical Filters	CMZ: Fiber-, Waveguide- and Cavity-Based Sensing I	CMAA: LED Device Physics
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Coffee Break, Concourse Level

CMGG: VCSEL II	CMHH: Femtosecond Lasers in Biology: Cell/Tissue Ablation and Biosensor Fabrication	CMII: A/D Conversion and Waveform Processing	CMJJ: Fiber-, Waveguide- and Cavity-Based Sensing II	CMKK: Novel LED and OLED Device Structures
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Break (Civic Auditorium doors will open at 5:45 p.m. for the Plenary)

CLEO Plenary Session, Civic Auditorium

Agenda of Sessions — Tuesday, May 6

	Ballroom A1 & A8	Ballroom A2 & A7	Ballroom A3 & A6	Ballroom A4 & A5	Room C1 & C2	Room C3 & C4	Room B1 & B2	Room J2
8:00 a.m.–9:45 a.m.	QTuA: Nano-plasmonics I	QTuB: Single Quantum Emitters	CTuA: Ultrafast Photonics I	CTuB: Stimulated Brillouin Scattering and Applications (ends at 9:30 a.m.)	QTuC: Periodic Nonlinear Media	CTuC: Optical Frequency Comb Control	CTuD: THz Metamaterials	CTuE: Spatial and Temporal Effects in Nonlinear Optics
8:30 a.m.–12:30 p.m.	SC163: Practical OPOs, Majid Ebrahim-Zadeh and Malcolm Dunn; SC166: Photonic Crystal Devices and Integrated Circuits, Dennis Prather; SC191: Tissue Optics: Fundamentals and Applications to Biomedical Optical and Laser Diagnostics, Valery V. Tuchin and Kirill V. Larin; SC192: Fiber Optic Sensors: Principles and Applications, Michel Dignonnet; SC270: High Power Fiber Lasers and Amplifiers, W. Andrew Clarkson; SC318: Laser Beam Combining: Theory and Methods, James R. Leger; <i>Fairmont Hotel</i>							
10:00 a.m.–10:30 a.m.	Coffee Break, <i>Exhibit Hall</i>							
10:00 a.m.–5:00 p.m.	Exhibit Hall Open							
10:30 a.m.–12:15 p.m.	QTuD: Nano-plasmonics II	QTuE: Single-Photon Sources	CTuK: Ultrafast Photonics II	CTuL: Raman Lasers and Amplifiers	QTuF: Spectroscopy/Filamentation	CTuM: Novel Optical Combs and Clocks	CTuN: Terahertz Spectroscopy	CTuO: Nonlinear Optics of High-Generation Harmonics
12:30 p.m.–1:30 p.m.	PhAST Power Lunch, <i>Exhibit Hall 3</i>							
12:15 p.m.–1:00 p.m.	Lunch Break (concessions available in Exhibit Hall)							
1:00 p.m.–2:30 p.m.	JTuA: CLEO/QELS Poster Session I, <i>Exhibit Halls 2 and 3</i>							
1:30 p.m.–5:30 p.m.	SC143: Introductory and Intermediate Topics in Polarized Light, Robert Fisher; SC153: Quasi-Phasematching for Wavelength Conversion and All-Optical Nonlinear Processing, Peter G. R. Smith; SC154: Quantum Well Devices for Optics and Optoelectronics, David A. B. Miller; SC155: Ultrashort Laser Pulse Measurement, Rick Trebino; SC182: Biomedical Optical Diagnostics and Sensing, Thomas Huser; SC198: Packaging of Optoelectronic Components, Andreas Rose; SC317: Laser Tweezers: Moving Tiny Things with Light, Kristian Helmersson; <i>Fairmont Hotel</i>							
2:30 p.m.–4:15 p.m.	QTuG: Nano-plasmonics III	QTuH: QELS Symposium on Quantum Light-Matter Interfaces I	CTuU: Ultrafast Photonics III	CTuV: Ultrafast Fiber Lasers I	CTuW: Light Emission I: Quantum Dots	QTuI: Spatial Effects and Instabilities	CTuX: Semiconductor THz Detectors and Emitters	CTuY: OPOs I
4:15 p.m.–4:45 p.m.	Coffee Break, <i>Exhibit Hall</i>							
4:45 p.m.–6:30 p.m.	QTuJ: Nano-plasmonics IV	QTuK: QELS Symposium on Quantum Light-Matter Interfaces II	CTuEE: Optical Parametric Chirped Pulse Amplifiers	CTuFF: Ultrafast Fiber Lasers II	CTuGG: Light Emission II	QTuL: Third Order Effects/Chalcogenides	CTuHH: THz Parametric Generation	CTuLL: OPOs II
6:30 p.m.–8:00 p.m.	Welcome Reception, <i>Concourse Level</i>							

All sessions are at the San Jose McEnergy Convention Center unless otherwise noted.

Key to Shading

	CLEO Sessions		QELS Sessions		Joint Sessions		PhAST Sessions		Short Courses
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Room J3	Marriott Salon 1 & 2	Marriott Salon 3	Marriott Salon 4	Marriott Salon 5 & 6	PhAST Room 1 (Exhibit Hall 1)	PhAST Room 2 (Exhibit Hall 3)	PhAST Room 3 (Exhibit Hall 3)
CTuF: Quantum Cascade Lasers I	CTuG: Bulk Processing of Transparent Materials with Femtosecond Lasers	CTuH: High-Speed Components	CTuI: Sensing with Ultrafast Lasers	CTuJ: Active Nanophotonic Devices			
SC163: Practical OPOs, Majid Ebrahim-Zadeh and Malcolm Dunn; SC166: Photonic Crystal Devices and Integrated Circuits, Dennis Prather; SC191: Tissue Optics: Fundamentals and Applications to Biomedical Optical and Laser Diagnostics, Valery V. Tuchin and Kirill V. Larin; SC192: Fiber Optic Sensors: Principles and Applications, Michel Digonnet; SC270: High Power Fiber Lasers and Amplifiers, W. Andrew Clarkson; SC318: Laser Beam Combining: Theory and Methods, James R. Leger; Fairmont Hotel							
Coffee Break, <i>Exhibit Hall</i>							
Exhibit Hall Open							
CTuP: Quantum Cascade Lasers II	CTuQ: Single Frequency and High-Power Green Lasers	CTuR: Optical Modulators and Switches	CTuS: Waveguide Devices	CTuT: Nonlinear Effects in Nanophotonic Structures	PTuA: Lasers and LED Displays I (ends at 12:30 p.m.)	PTuB: High-Power Semiconductor Lasers I (ends at 12:30 p.m.)	PTuC: Organic LED Technology for Lighting (ends at 12:30 p.m.)
PhAST Power Lunch, <i>Exhibit Hall 3</i>							
Lunch Break (<i>concessions available in Exhibit Hall</i>)							
JTUA: CLEO/QELS Poster Session I, <i>Exhibit Halls 2 and 3</i>							
SC143: Introductory and Intermediate Topics in Polarized Light, Robert Fisher; SC153: Quasi-Phasematching for Wavelength Conversion and All-Optical Nonlinear Processing, Peter G. R. Smith; SC154: Quantum Well Devices for Optics and Optoelectronics, David A. B. Miller; SC155: Ultrashort Laser Pulse Measurement, Rick Trebino; SC182: Biomedical Optical Diagnostics and Sensing, Thomas Huser; SC198: Packaging of Optoelectronic Components, Andreas Rose; SC317: Laser Tweezers: Moving Tiny Things with Light, Kristian Helmerson; Fairmont Hotel							
CTuZ: Mid-IR Semiconductor Lasers	CTuAA: Eye-Safe Lasers	CTuBB: Photonic Integrated Circuits	CTuCC: Nanowires, Whiskers and Needles	CTuDD: Resonators and Dispersion Engineering	PTuD: Lasers and LED Displays II (2:15 p.m.-4:15 p.m.)	PTuE: High-Power Semiconductor Lasers II (2:15 p.m.-3:45 p.m.)	PTuF: Business Growth for OLED Lighting (2:15 p.m.-4:15 p.m.)
Coffee Break, <i>Exhibit Hall</i>							
CTuJJ: Novel Semiconductor	CTuKK: Novel Solid-State Lasers and Materials	CTuLL: Optical Access	CTuMM: Novel Fiber Structures	CTuNN: Wavelength Selective Elements			
Welcome Reception, <i>Concourse Level</i>							

Agenda of Sessions — Wednesday, May 7

	Ballroom A1 & A8	Ballroom A2 & A7	Ballroom A3 & A6	Ballroom A4 & A5	Room C1 & C2	Room C3 & C4	Room B1 & B2	Room J2
8:00 a.m.–10:30 a.m.	CLEO/QELS Joint Plenary Session, <i>Civic Auditorium</i>							
10:00 p.m.–5:00 p.m.	Exhibit Hall Open							
10:30 a.m.–12:00 p.m.	Coffee Break (ends at 11:00 a.m.) and Exhibit-Only Time, <i>Exhibit Hall</i>							
11:00 a.m.–12:00 p.m.	Lunch Break (<i>concessions available in Exhibit Hall</i>)							
12:00 p.m.–1:30 p.m.	JWA: CLEO/QELS Poster Session II, <i>Exhibit Halls 2 and 3</i>							
1:30 p.m.–3:15 p.m.	QWA: Plasmonic Devices and Waveguides	QWB: Quantum Cryptography I	CWA: Ultrafast Spectroscopy and Dynamics	CWB: Coherent Combining and Harmonic Generation of High-Power Fiber Lasers	QWC: Exciton and Spin Control in Quantum Dots	JWB: Intense Laser Interactions with Solids and Clusters	JWC: Joint CLEO/QELS Symposium on Nonlinear Microscopy and Spectroscopy in Biology I	CWC: Other Topics in Nonlinear Optics
3:15 p.m.–4:45 p.m.	Coffee Break (ends at 3:45 p.m.) and Exhibit-Only Time, <i>Exhibit Hall</i>							
4:45 p.m.–6:30 p.m.	QWD: Fundamental and Novel Phenomena	QWE: Quantum Cryptography II	CWI: Nonlinear Propagation and Generation	CWJ: Parametric Amplifiers and Oscillators	QWF: Quantum Dots and Quantum Wells	JWD: Intense Lasers and Laser Molecular Interactions	JWE: Joint CLEO/QELS Symposium on Nonlinear Microscopy and Spectroscopy in Biology II	CWL: Pulse Shaping

All sessions are at the San Jose McEnery Convention Center unless otherwise noted.

Key to Shading

	CLEO Sessions		QELS Sessions		Joint Sessions		<i>PhAST</i> Sessions		Short Courses
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Room J3	Marriott Salon 1 & 2	Marriott Salon 3	Marriott Salon 4	Marriott Salon 5 & 6	PhAST Room 1 (Exhibit Hall 1)	PhAST Room 2 (Exhibit Hall 3)	PhAST Room 3 (Exhibit Hall 3)
CLEO/QELS Joint Plenary Session, Civic Auditorium							
Exhibit Hall Open							
Coffee Break (ends at 11:00 a.m.) and Exhibit-Only Time , <i>Exhibit Hall</i>							
Lunch Break (<i>concessions available in Exhibit Hall</i>)							
JWA: CLEO/QELS Poster Session II, Exhibit Halls 2 and 3							
CWD: Semiconductor Disk Lasers	CWE: CLEO Symposium on Light Filaments and Light Propagation in Atmosphere	CWF: Detectors <i>(ends at 3:00 p.m.)</i>	CWG: Ferroelectric-Based Nonlinear Optical Materials <i>(ends at 3:00 p.m.)</i>	CWH: Photonic Crystal Filters and Buffers	PWA: Lasers in Manufacturing I <i>(1:15 p.m.–3:15 p.m.)</i>	PWB: Lasers in Manufacturing II <i>(1:15 p.m.–3:15 p.m.)</i>	PWC: Organic LEDs for Low-Power Displays <i>(1:15 p.m.–3:15 p.m.)</i>
Coffee Break (ends at 3:45 p.m.) and Exhibit-Only Time , <i>Exhibit Hall</i>							
CWL: Semiconductor Ring Lasers	CWM: Nanoparticles and Molecular Approaches for Biosensing	CWN: Optical Modulation Techniques	CWO: 3-D Structuring of Photonic Crystals	CWP: Advanced Functionality in High Confinement Waveguides		PWD: PANEL: Trends in High-Power Diode Lasers <i>(3:45 p.m.–5:00 p.m.)</i>	PWE: Organic Solar Cells <i>(3:45 p.m.–5:00 p.m.)</i>

Agenda of Sessions — Thursday, May 8

	Ballroom A1 & A8	Ballroom A2 & A7	Ballroom A3 & A6	Ballroom A4 & A5	Room C1 & C2	Room C3 & C4	Room B1 & B2	Room J2
8:00 a.m.–9:45 a.m.	QThA: Nonlinear Plasmonics	QThB: Electromagnetically Induced Transparency	CThA: High-Intensity Applications	CThB: Ultrafast Fiber Amplifiers	QThC: Ultrafast Dynamics of Strongly Correlated Materials	CThC: CLEO Symposium on Integrated Optical Isolators and Magneto-Optical Phenomena I	CThD: THz Techniques	CThE: Raman and Stimulated Scattering
10:00 a.m.–10:30 a.m.	Coffee Break, Exhibit Hall							
10:00 a.m.–4:00 p.m.	Exhibit Hall Open							
10:30 a.m.–12:15 p.m.	QThD: Nano-Optics	QThE: Quantum Degenerate Gases	CThK: Pulse Characterization	CThL: Fiber Lasers and Amplifiers	QThF: Ultrafast Dynamics in Magnetic Materials	CThM: CLEO Symposium on Integrated Optical Isolators and Magneto-Optical Phenomena II	CThN: Terahertz Imaging	CThO: Frequency Conversion
12:15 p.m.–1:00 p.m.	Lunch Break (concessions available in Exhibit Hall)							
1:00 p.m.–2:30 p.m.	JThA: CLEO/QELS Poster Session III, Exhibit Halls 2 and 3							
2:30 p.m.–4:15 p.m.	QThG: Nonlinear Photonic Lattice	QThH: Atom Interferometry and Atom Based Measurements	CThU: Carrier Envelope Phase Systems	CThV: Novel Fiber Designs	QThI: Exciton Dynamics I	JThB: High-Energy Short-Pulse Lasers and Technology	CThW: Visible and Ultraviolet Laser Systems	CThX: Harmonic Generation
4:15 p.m.–4:45 p.m.	Coffee Break, Concourse Level							
4:45 p.m.–6:30 p.m.	QThJ: Slow and Fast Light	QThK: Quantum Measurement	CThDD: Ultrafast Pulse Shaping	CThEE: Photonic Band-Gap Fibers	QThL: Exciton Dynamics II	JThC: Ultrafast Laser Plasmas and Filaments	CThFF: Ytterbium Lasers	CThGG: Nonlinear Photonic Crystals
6:30 p.m.–8:00 p.m.	Dinner Break (on your own)							
8:00 p.m.–10:00 p.m.	CLEO/QELS Postdeadline Paper Sessions, Rooms A2, A3 and A4							

All sessions are at the San Jose McEnergy Convention Center unless otherwise noted.

Key to Shading

	CLEO Sessions		QELS Sessions		Joint Sessions		PhAST Sessions		Short Courses
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Room J3	Marriott Salon 1 & 2	Marriott Salon 3	Marriott Salon 4	Marriott Salon 5 & 6	PhAST Room 1 (Exhibit Hall 1)	PhAST Room 2 (Exhibit Hall 3)	PhAST Room 3 (Exhibit Hall 3)
CThF: Mode-Locked Semiconductor Lasers I	CThG: Deep Tissue Imaging	CThH: All-Optical Signal Processing	CThI: Characterization of New Nonlinear Optical Materials	CThJ: Photonic Crystal Lasers and Functional Devices			
Coffee Break, <i>Exhibit Hall</i>							
Exhibit Hall Hours							
CThP: Mode-Locked Semiconductor Lasers II	CThQ: Lab-on-a-Chip for Biophotonic Applications I	CThR: Radio-over-Fiber and Optical Signal Generation	CThS: Quantum Dots	CThT: Slot and High Confinement Waveguides	PThA: Laser Applications in the Photovoltaic Market I (ends at 12:30 p.m.)	PThB: Lasers in Manufacturing III (ends at 12:30 p.m.)	PThC: Inorganic Solar Cell Technology and Economics (ends at 12:30 p.m.)
Lunch Break (<i>concessions available in Exhibit Hall</i>)							
JThA: CLEO/QELS Poster Session III, <i>Exhibit Halls 2 and 3</i>							
CThY: Low-Dimensional Gain Media	CThZ: Lab-on-a-Chip for Biophotonic Applications II	CThAA: Optical Transmission Systems	CThBB: Advanced Materials and Methods	CThCC: Photonic Crystal High-Q Cavities	PThD: Laser Applications in the Photovoltaic Market II (2:00 p.m.–4:00 p.m.)	PThE: Lasers in Manufacturing IV (2:00 p.m.–4:00 p.m.)	PThF: New Solar Technologies for Grid Parity (2:00 p.m.–4:00 p.m.)
Coffee Break, <i>Concourse Level</i>							
CThHH: Quantum Dot Lasers	CThII: Novel Spectroscopy and Microscopy Methods	CThJJ: Coherent Detection and Signal Processing	CThKK: Semiconductor Optoelectronics	CThLL: Plasmonics and Nano-manipulation			
Dinner Break (<i>on your own</i>)							
CLEO/QELS Postdeadline Paper Sessions, <i>Rooms A2, A3 and A4</i>							

Agenda of Sessions — Friday, May 9

	Ballroom A1 & A8	Ballroom A2 & A7	Ballroom A3 & A6	Ballroom A4 & A5	Room C1 & C2	Room C3 & C4	Room B1 & B2	Room J2
8:00 a.m.–9:45 a.m.	QFA: Light Emission in Photonic Crystals (ends at 9:30 a.m.)	QFB: Quantum Imaging and Interference	CFA: Ultrafast Modulation and Synthesis	JFA: Joint CLEO/QELS Symposium on Hollow-Core Photonic Crystal Fibers I	QFC: Polaritons in Confined Structures	JFB: Laser Acceleration	CFB: Short Pulse and Pulse-Shaped Lasers	CFC: Comb and Continuum Generation
9:45 a.m.–10:15 a.m.	Coffee Break, Concourse Level							
10:15 a.m.–12:00 p.m.	QFD: Random Lasers	QFE: Entangled Photon Sources I	CFI: Ultrafast Oscillators I	JFC: Joint CLEO/QELS Symposium on Hollow-Core Photonic Crystal Fibers II	QFF: Coherent Control and Novel Lasers	JFD: High Harmonic Generation and Attosecond Physics I	CFJ: Nd Lasers	CFK: QPM Devices
12:00 p.m.–1:30 p.m.	Lunch Break (on your own)							
1:30 p.m.–3:15 p.m.	QFH: Photonic Crystals: Control	QFI: Entangled Photon Sources II	CFP: Ultrafast Oscillators II	JFE: Joint CLEO/QELS Symposium on Hollow-Core Photonic Crystal Fibers III	QFJ: Coherent Control of Spin in Semiconductors	JFF: High Harmonic Generation and Attosecond Physics II	CFQ: High-Power and High-Energy Solid-State Lasers	CFR: Nonlinear Waveguides
3:15 p.m.–3:45 p.m.	Coffee Break, Concourse Level							
3:45 p.m.–5:30 p.m.	QFL: Meta-Devices	QFM: Quantum Nonlinear Optics		JFG: Joint CLEO/QELS Symposium on Hollow-Core Photonic Crystal Fibers IV (ends at 5:15)	QFN: Ultrafast Phonon Dynamics	JFH: High Harmonic Generation and Attosecond Physics III	CFW: Advanced Solid-State Laser Materials	CFX: Nonlinear Optical Materials

All sessions are at the San Jose McEnergy Convention Center unless otherwise noted.

Key to Shading

	CLEO Sessions		QELS Sessions		Joint Sessions		PhAST Sessions		Short Courses
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Room J3	Marriott Salon 1 & 2	Marriott Salon 3	Marriott Salon 4	Marriott Salon 5 & 6
CFD: Thulium-Doped Fiber Amplifiers and Lasers	CFE: High-Throughput Biosensing	CFF: Routing and Security in Optical Networks	CFG: Organic/Polymer Photonics	CFH: Interconnects: Modulators and Detectors
Coffee Break, Concourse Level				
CFL: Bismuth-Based Fiber Devices	CFM: Optical Coherence Tomography	QFG: Photonic Crystals: Waveguides and Cavities	CFN: Optofluidics	CFO: Nano Fabrication Techniques and Novel Material
Lunch Break (on your own)				
CFS: Yb-Doped Fiber Lasers and Amplifiers	CFT: Superresolution Imaging	QFK: Plasmonic Nanoantennas	CFU: Ultrafast Dynamics	CFV: Novel THz Generation Schemes
Coffee Break, Concourse Level				
		QFO: Micro- and Nanocavities	CFY: Subwavelength Structuring of Optical Materials	CFZ: High-Field THz Generation and Applications